

REMARKS

Favorable reconsideration and allowance of the application are respectfully requested in view of the following remarks. Claims 1-10 and 21 were pending prior to the Office Action. Claims 11-20 were withdrawn as a result of an election made in the Reply filed on November 15, 2004. The withdrawn claims have been cancelled and claims 22-31 have been added through this Reply. Therefore, claims 1-10 and 21-31 are pending. Claims 1 and 21 are independent.

ALLOWABLE SUBJECT MATTER

Applicants appreciate that claims 6 and 9 are indicated to include allowable subject matter.

SCOPE OF CLAIMS NOT ALTERED

Claims 1 and 21 have been amended merely to address informal issues. It is intended that the scope of the claims remain substantially the same.

§ 102 REJECTION – NAKAMURA

Claims 1, 3 and 4 stand rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by Nakamura et al. (USP 5,940,115). *See Office Action, items 2 and 3.* Applicants respectfully traverse.

For a Section 102 rejection to be proper, the cited reference must teach or suggest each and every claimed element. *See M.P.E.P. 2131; M.P.E.P. 706.02.* Thus, if the cited reference fails to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

In this instance, Nakamura fails to teach or suggest each and every claimed element. For example, independent claim 1 recites, in part “starting illumination of a laser beam from a laser oscillator onto a light-photosensitive heat-developing photosensitive material.” *Emphasis added.* Independent claim 21 also recites a similar feature.

In the Office Action, the Examiner alleges that Nakamura discloses a laser oscillator and points to column 4, lines 36-41 of Nakamura. *See Office Action, item 3, second bullet item.* Contrary to the Examiner’s assertion, the recited portion Nakamura merely discloses that when the energy density of the pulse width of the laser beam is excessively large, the surface of the x-ray film is deformed or deteriorated resulting in the image quality being lowered, and that unnecessary combustion might occur. There is simply no discussion regarding the presence of a laser oscillator as claimed.

Indeed, the entirety of Nakamura is silent regarding the presence of the laser oscillator. Instead, Nakamura discloses that a plurality of laser beam generating tubes 20a-20g are used as laser beam forces. *See column 4, lines*

12-27.; *Figure 1.* The laser beam generating tubes as disclosed in Nakamura can in no way be equivalent to the laser oscillator as claimed.

Independent claim also recites, in part “forming a cavity at an interior of the surface layer by energy of the laser beam.” *Emphasis added.* Contrary to the Examiner’s assertion, Nakamura also fails to teach or suggest this feature. In the Office Action, the Examiner alleges that Nakamura discloses irradiating a photosensitive material that has an emulsion layer (61) with a laser beam to form a convex (or concave) cavity at an interior of the surface layer as dots. *See Office Action, item 3, second paragraph.* The Examiner specifically referred to column 8, line 64 to column 9, line 17 and Figures 1 and 4 of Nakamura for the alleged support.

However, a closer inspection of the relied upon portion merely indicates that the plurality of the laser beam generating tubes generate dots at predetermined positions in a main scanning direction of the x-ray film. Nakamura also discloses that a deformation occurs on the surface of emulsion layer 61. There absolutely no discussion regarding a cavity forming at the interior of the surface layer in Nakamura. Therefore, Nakamura cannot be relied upon to teach or suggest the feature of the cavity at the interior of the surface layer as claimed in claims 1 and 21.

Indeed, it appears that the Examiner has erroneously combined the cavity as recited and the convex portion as recited in the claims. However, as

recited in the claims, it is clear that the cavity is a different element from the convex portion element. In the Office Action, it appears that the Examiner has combined the two elements into a single element reciting a convex cavity. In other words, it appears that the Examiner has erred in his interpretation of the claims.

For at least the reasons stated above, independent claim 1 is distinguishable over Nakamura. Claims 3 and 4 depend from independent claim 1 directly or indirectly. Therefore, these dependent claims are also distinguishable over Nakamura for at least the reasons stated above.

It should also be noted that the dependent claims are distinguishable on their own merit. For example, claim 4 recites in part “controlling an oscillation output of the laser oscillator.” Since Nakamura cannot be relied upon to teach or suggest the feature of the laser oscillator, it cannot be relied upon to also teach or suggest the feature of controlling the output of the laser oscillator as well.

For the reasons stated above, Applicants respectfully request that the rejection of claims 1, 3, and 4 based on Nakamura be withdrawn.

§ 103 REJECTION – NAKAMURA

Claims 7 and 21 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nakamura. *See Office Action, items 4 and 5.* Applicants respectfully traverse.

For a Section 103 rejection to be proper, a *prima facie* case of obviousness must be established. *See M.P.E.P. 2142.* One requirement to establish *prima facie case* of obviousness is that the prior art references, when combined, must teach or suggest all claim limitations. *See M.P.E.P. 2142; M.P.E.P. 706.02(j).* Thus, if the cited references fail to teach or suggest one or more elements, then the rejection is improper and must be withdrawn.

Regarding claim 7, it is noted that claim 7 depends from independent claim 1. It has been shown above that independent claim 1 is distinguishable over Nakamura. Therefore, claim 7 is distinguishable over Nakamura for at least the reasons stated with respect to independent claim 1.

Claim 7 is also distinguishable over Nakamura on its own merit. Claims 7 recites, in part “using a laser oscillator whose oscillation output is 100W and whose oscillation wave length is in a 9μm band and setting the illumination time of the laser beam to be in a range of 25μsec to 35μsec.”

The Examiner admits that Nakamura does not teach the claimed features related to the laser beam irradiated condition. However, the Examiner merely alleges that it would have been obvious to select the parameters of the laser

beams as claimed since discovering the optimum or workable range involves only routine skill in the art.

However, it is also true that to establish a *prima facie* case of obviousness, the entirety of the cited reference must be considered. *See MPEP 2142.02.*

In this instance, Nakamura specifically discloses that the particular combination of energy density and pulse width duration must be within the region specified by points A, B, C, and D as disclosed in Figure 3. *See Figure 3; column 8, lines 21-57.* Indeed, Nakamura states “in the region enclosed by the above four lines, it was easy to read the character and, of course no deformation and no deterioration were observed on the film surface.” *See page 8, lines 37-42.* Nakamura indicates that the combination of energy density and pulse width outside of the region specified by the lines connecting points A, B, C, and D results in unsatisfactory dots being formed.

It is noted that the Examiner did not provide any basis to indicate that the particular combination claimed in claim 7 would fall within the region as specified in Nakamura. Therefore, the Examiner failed to meet the burden of establishing the *prima facie* case of obviousness with regard to claim 7.

Also, in as far as optimization is concerned, it should be noted that the use of the laser oscillator whose wavelength is 9 μm is unusual in the optimization process. Normal and typical setting of a CO₂ laser apparatus is in

the 10 μm or 10.6 μm band. Without a particular reason, use of 9 μm band would not be conceived. Thus, contrary to the Examiner's allegation, the feature involves more than a simply routine skill in the art.

For at least the reasons stated above, claim 7 is distinguishable over Nakamura.

Regarding independent claim 21, it is noted that claim 21 recites, in part, "a laser beam from a laser oscillator", "a cavity at an interior of a surface layer", "controlling an oscillation output of the laser oscillator", and "a laser oscillator whose oscillation wavelength is in a 9 μm band." It has been shown above that Nakamura cannot be relied upon to teach or suggest at least these recited features. Therefore, independent claim 21 is distinguishable over Nakamura.

Applicants respectfully request that the rejection of claims 7 and 21 based on Nakamura be withdrawn.

§ 103 REJECTION – NAKAMURA, OHASHI

Claims 2, 5, 8, and 10 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Nakamura in view of Ohashi et al. (USP 5,665,502) . *See Office Action, item 6.* Applicants respectfully traverse.

It is noted that the rejected claims depend from independent claim 1 directly or indirectly, and it has been shown above that independent claim 1 is distinguishable over Nakamura.

Ohashi has not been, and indeed cannot be, relied upon to correct for at least the above-noted deficiencies of Nakamura. Therefore, independent claim 1 is distinguishable over the combination of Nakamura and Ohashi.

For at least due to the dependency thereon, dependent claims 2, 5, 8, and 10 are also distinguishable over Nakamura and Ohashi.

Further, it is noted that Nakamura and Ohashi cannot be properly be combined since they are non-analogous and also teach away from each other. More specifically, Ohashi discloses that a photoconductive layer is formed on a cylindrical electrically conductive substrate. *See Ohashi column 10, lines 9-15.* More importantly, Ohashi is directed towards using a laser light to form a marking portion of the surface of the cylindrical electrically conductive substrate. *See column 4, lines 15-18.* It is important to realize that the photosensitive layer on the electronically conductive substrate is left alone.

This is in complete contrast to Nakamura where it is the photoconductive layer that is being marked. Clearly, Ohashi is completely non-analogous to Nakamura and indeed teaches away from Nakamura as well as the recited claims. Thus, any rejection based on the combination of Nakamura and Ohashi is improper.

In addition, Ohashi merely discloses a laser processing that makes the peripheral surface area of the aluminum cylinder rough in order to enhance the S/N rate between an irradiated and non-irradiated surface. Ohashi does not

disclose a laser marking on a photosensitive layer nor a marking of some significant information presented by letters or signs. Ohashi's processing also forms a groove, in other words, a furrow-like shape on a work. This is in contrast from the marking process discussed in the present application.

For at least the reasons stated above, Applicants respectfully request that the rejection of claims 2, 5, 8, and 10 based on the combination of Nakamura and Ohashi be withdrawn.

NEW CLAIMS

Claims 22-31 have been added through this Reply. All new claims are believed to be distinguishable over the cited references, individually or in any combination. Applicants respectfully request that the new claims be allowed.

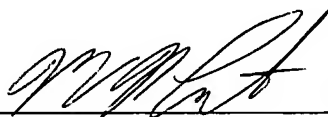
CONCLUSION

All objections and rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance. Should there be any outstanding matters that need to be resolved, the Examiner is respectfully requested to contact Hyung Sohn (Reg. No. 44,346), to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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